functional characteristic of human integral membrane protein].

12. (Once Amended) A [pharmaceutical] composition comprising [a substantially purified human integral membrane protein having the amino acid sequence of SEQ ID NO:1 in conjunction with] the protein of claim 1 and a suitable pharmaceutical carrier.

21. (Once Amended) A purified polypeptide comprising [an amino acid sequence selected from the group consisting of:

a) an amino acid sequence of SEQ ID NO:1,

b) a naturally-occurring amino acid sequence having at least 90% sequence identity to the sequence of SEQ ID NO:1,

c) a biologically-active fragment of the amino acid sequence of SEQ ID NO:1, and

d)] an immunogenic fragment of the amino acid sequence of SEQ ID NO:1.

Please add the following new claim:

41. (New) A method for identifying mature osteoblasts in a mixed tissue sample comprising:

a) raising antibodies that bind specifically to the protein of claim 1,

b) contacting said antibodies with a mixed tissue sample containing mature osteoblasts wherein said mature osteoblasts express the protein of claim 1, and

c) detecting the binding of said antibodies to said mature osteoblasts, thereby identifying mature osteoblasts in a mixed tissue sample.

REMARKS

Claim Rejections Under 35 U.S.C. § 101

Claims 1, 2, 12, 21, 22 and 36-39 have been rejected under 35 U.S.C. § 101, because the claimed invention is allegedly not supported by a specific and substantial credible utility. The Examiner alleges that the specification does not teach a credible biological role for the disclosed protein.